

## ANIMAL NUTRITION

**UNIT CODE: 0811 441 10A**

**TVET CDACC UNIT CODE: HE/CU/AHP/CC/10/5/MA**

### **Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Apply knowledge of animal nutrition in animal feeding.

**Unit Duration: 60 hours**

### **Unit Description**

This unit specifies the competencies required by an animal health and production technician to apply knowledge of animal nutrition in animal feeding. It involves applying principles of nutrition, knowledge of types of digestive systems, animal feed requirements, and formulating animal feed.

### **Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

<b>S/No</b>	<b>Learning Outcomes</b>	<b>Duration (Hours)</b>
1.	Apply knowledge of principles of nutrition	10
2.	Apply knowledge of types of digestive systems	20
3.	Apply knowledge of animal feed requirements	10
4.	Formulate animal feed	20
<b>Total</b>		<b>60</b>

### Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Methods of assessment
1. Apply knowledge of principles of nutrition	1.1 Principles of nutrition 1.2 Composition of feeds 1.2.1 Proteins 1.2.2 Carbohydrates 1.2.3 Vitamins 1.2.4 Lipids 1.2.5 Minerals 1.2.6 Water 1.3 Types of feed 1.3.1 Pastures 1.3.2 Forages 1.3.3 Concentrate. 1.4 Functions of feed components	<ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Written tests</li> <li>● Third party report</li> <li>● Portfolio of evidence</li> <li>● Oral questions</li> </ul>
2. Apply knowledge of types of digestive systems	2.1. Types of digestive systems 2.1.1 Ruminant ● Cattle ● Sheep ● Goats 2.1.2 Non ruminant ● Pigs ● Poultry ● Donkeys ● Camels 2.2. Factors affecting feed digestibility 2.3. Factors affecting bioavailability of feed	<ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Written tests</li> <li>● Third party report</li> <li>● Portfolio of evidence</li> <li>● Oral questions</li> </ul>
3. Apply knowledge of animal feed	3.1. Animal feed requirements 3.2. Evaluation of feed intake	<ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Written tests</li> </ul>

requirements	3.3. Factors affecting animal feed requirements 3.4. Feed conversion efficiency	<ul style="list-style-type: none"> <li>● Third party report</li> <li>● Portfolio of evidence</li> <li>● Oral questions</li> </ul>
4. Formulate animal feed	4.1. Principles of rations formulation 4.2. Ration formulation techniques 4.2.1. Pearson's square 4.2.2. Trial and error 4.2.3. Algebraic Linear programming 4.2.4. Least Cost formulation 4.3. Feed conversion efficiency 4.4. Feed presentation	<ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Written tests</li> <li>● Third party report</li> <li>● Portfolio of evidence</li> <li>● Oral questions</li> </ul>

### Suggested Methods of Instruction

- Practical
- Projects
- Demonstrations
- Group discussion
- Direct instructions

### Recommended Resources for 25 trainees

S/NO	Category/Item	Description/specification	Qty	Recommended ratio (item: trainee)
1.	Projector	EPSOM	1	1:25
2.	Whiteboard/smartboard	2.5 By 1.5.M	1	1:25
3.	Desktop/computer		1	1:25
4.	Classroom	Well-lit with 25 seats	1	1:25
5.	Feed analysis laboratory	As guided by Kenya Bureau of Standards	1	1:25
6.	Library	Equipped with animal nutrition books and E-section	1	1:25
7.	Pastures			
8.	Forages			
9.	Concentrates			
10.	Forage chopper		1	1:25
11.	Feed grinders		1	1:25

12.	Feed packing woven bag		100	4:1
13.	Weight tape		25	1:1
14.	Animal farm	As guided by KVB	-	-
15.	Cattle	As guided by KVB	-	-
16.	Sheep	As guided by KVB	-	-
17.	Goats	As guided by KVB	-	-
18.	Pigs	As guided by KVB	-	-
19.	Poultry	As guided by KVB	-	-
20.	Donkeys	As guided by KVB	-	-
21.	Camels	As guided by KVB	-	-